



A Culture of Safety

Submarine Safety in the U. S. Navy

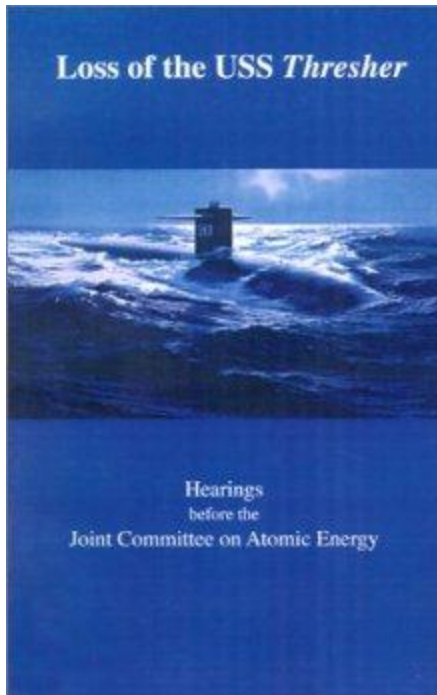
Presented to the National Transportation Safety Board

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Fifty Years Ago , on April 10, 1963 ...



*USS THRESHER was lost at sea with all 129 aboard
112 Officers and Enlisted; 17 civilians*



- The purpose of the SUBSAFE Program is to provide “maximum reasonable assurance” of:
 - Hull integrity to preclude flooding
 - Operability and integrity of critical systems and components to **control** and **recover** from a flooding casualty

Elements of a Culture of Safety

- **Responsibility**
 - A duty, obligation, or burden
- **Accountability**
 - The state of being answerable for one's actions
- **Integrity**
 - Rigid adherence to a code of behavior



Elements of a Culture of Safety

- **Work Discipline**
 - Knowledge Of and Compliance With Requirements
- **Material Control**
 - Correct Material Installed Correctly
- **Documentation**
 - Design Products (Specs, Drawings, Maintenance Standards, etc.)
 - Objective Quality Evidence (OQE)
- **Compliance Verification**
 - Inspections, Surveillance, Technical Reviews, Audits
- **Balanced Separation of Authorities**
- **Continual Education and Training**

Compliance Verification



- **SUBSAFE Certification Audits:**

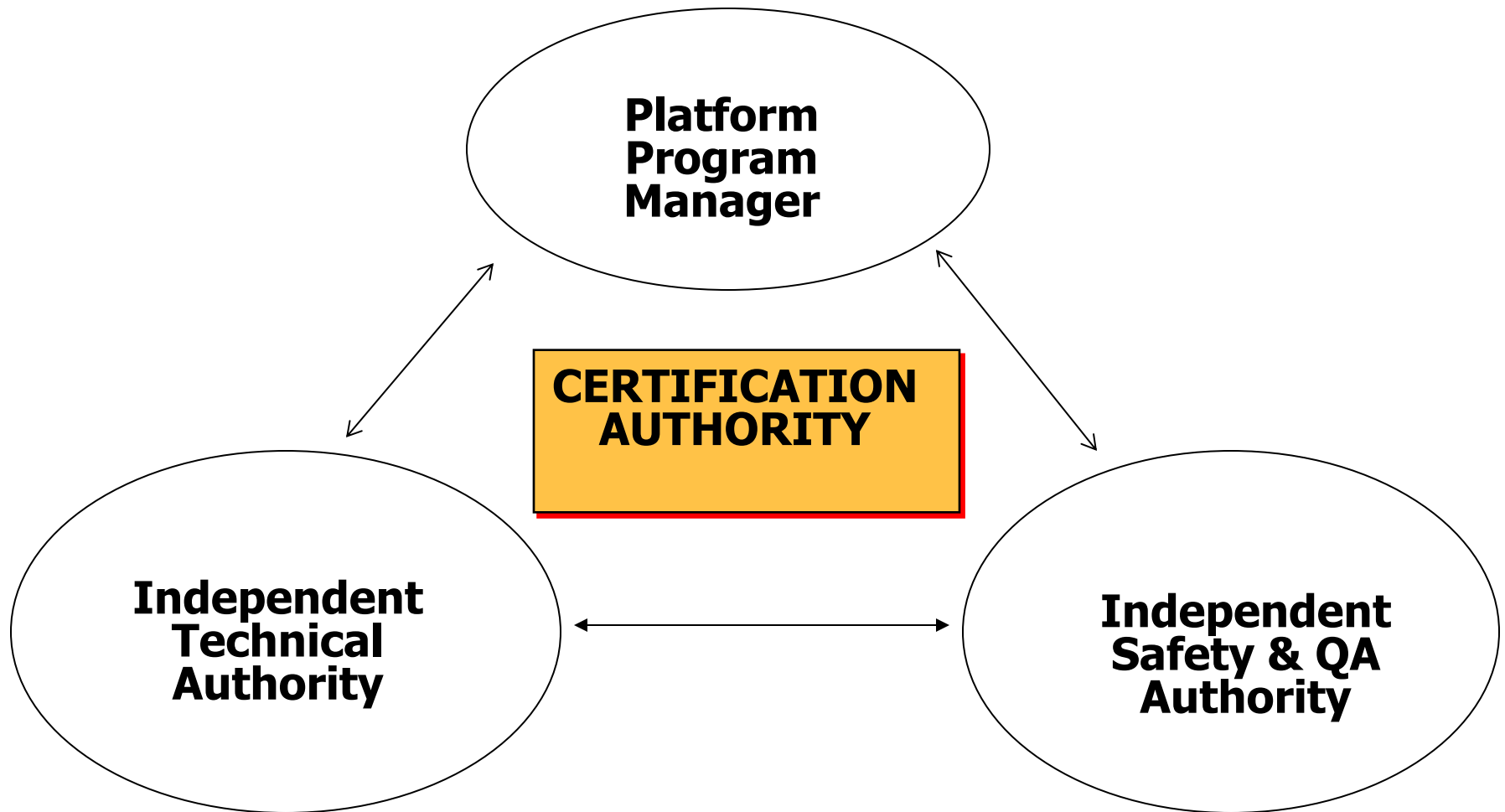
- Ship specific
- A critical element for certification for sea trials and unrestricted operations

- **SUBSAFE Functional Audits:**

- Facility specific review
 - Policies
 - Procedures
 - Practices
- Verifies organizational compliance with SUBSAFE Program requirements



Balanced Separation of Authorities



Challenges

- **Ignorance**

- The state of not knowing

- **Arrogance**

- The habit of behaving based on pride, self-importance, conceit, or the assumption of intellectual superiority and the presumption of knowledge that is not supported by facts

- **Complacency**

- Satisfaction with one's accomplishments, accompanied by a lack of awareness of actual dangers or deficiencies

Long Term View

"Good ideas are not adopted automatically. They must be driven into practice with courageous patience."

"Once implemented they can be easily overturned or subverted through apathy or lack of follow-up...a continuous effort is required."

- Hyman G. Rickover

Photo # NH 97570 Brass pipe recovered from USS Thresher debris field, 1963



Never Forget

Photo # NH 82320 USS Thresher (SSN-593) underway on the surface



Photo # NH 97117 Upper hull of the nuclear submarine Thresher photographed by USSN Manta 1968



Vis Tacita : Silent Strength

Principles applicable beyond submarines ...

